

VISHWAKARMA UNIVERSITY

SDG 6 REPORT 2019





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Maximising Human Potential

About This Report

The United Nations “Transforming our World: the 2030 Agenda for Sustainable Development” which includes the 17 Sustainable Development Goals (SDGs) has great importance and significance to universities. The SDGs provide for a shared global vision towards sustainable development for all. Vishwakarma University (VU) firmly believes in the vital role that universities can play in the achievement of the SDGs, and has ingrained this aspect in all of its strategies and operations. As encapsulated in its motto - maximizing human potential, VU, since the year of its inception, has worked endlessly towards creating an enabling environment to ensure the wholesome development of its students - preparing them for life and livelihood

VU has embarked on an exciting journey to transform the VU Campus to become an EcoCampus, which will be a testbed for innovative sustainability solutions for the future. The vision of the VU EcoCampus is to develop VU as “a global Sustainability thought leader, committed to improving the society, by providing an empowering partnership for the development of technology and educating the future generation”. Sustainability with an aim to reduce the carbon footprint was the key theme of the function organised to celebrate the launch of the ‘Eco Campus’.

This report showcases VU’s commitment to sustainable development goals in which VU has been actively working in partnership with diverse stakeholders. One such example is VU’s Certificate Programme in Sustainability Management in Cooperation with the HoF University of Applied Sciences Germany, a program in which students gain a deep understanding of state-of-the-art business management techniques and more importantly latest sustainable methods. Likewise, the Wilo Foundation-Vishwakarma University established through a grant from the Wilo Foundation, Germany promotes research in water treatment, purification and create the much-needed social awareness about clean drinking water through its Water Quality Centre of Excellence.

VU continually strives to contribute to the sustainable development of the nation and society at large by developing educated and productive human resources that observe and adhere to the practices of equity, inclusiveness, excellence, ethics, and professional standards.

Prof. (Dr.) Siddharth Jabade,
Vice Chancellor,
Vishwakarma University, Pune, India





6 CLEAN WATER
AND SANITATION



**Ensure access to water and
sanitation for all**

Vishwakarma University (VU) promotes education, research, innovation, and outreach in the domain of water and sanitation. VU's mission is to enable innovative technologies, best practices, and development in the context of the need, relevance, socialization, and localization to the community at large for the greater good. There is a major drive to ensure the bottom of the pyramid, the marginalized and needy community is very much beneficiary in this endeavour. In particular, water treatment, purification, and creates much needed social awareness about clean drinking water and sanitation.

Establishment of Water Quality Centre of Excellence

State of the art, Water Quality Centre of Excellence in collaboration with Wilo Foundation, Germany at Vishwakarma University, is a step towards fulfilling the motto of carrying out transformational research in the domain of water and sanitation [<http://www.wilo-foundation.de/en.html>] This Centre has sophisticated equipment to measure physical, chemical, and biological parameters of water. To conduct research and measure the physical, chemical, and biological parameters of water, the Centre is well-equipped with the latest models of sophisticated instruments. They include Induced Couple plasma-Optical Emission Spectrophotometer, Atomic Absorption Spectrophotometer, High-Performance Liquid Chromatograph, Total Organic Carbon analyzer, Flame Photometer, Autotitrator, Microscope with Camera, Colony Counter, Incubators, Fluoride Meter, Colorimeter.

The objectives of the Centre are:

- Awareness and sensitization
- Policy and advocacy
- Innovative technology development
- Adaptation and proliferation
- Facilitation in terms of assistance in water quality measurement
- Socialization of best practices and innovations
- Collaboration and networking towards SDG 6

<https://www.vupune.ac.in/water-quality-centre-of-excellence>

https://www.vupune.ac.in/images/MediaCoverage/Times_of_India_18_June_2018.pdf

Wilo Safe Water Hut at Vishwakarma University

Vishwakarma University has established an innovative water ATM at its Kondhwa campus in collaboration with Wilo Mather and Platt. Students, faculty members, and surrounding community members would only need to swipe their identity cards at Water ATM to get clean, processed water. There is no need to carry water bottles; this has enabled us to proceed with the plastic-free VU campus mission. The water treatment obviates the issues encountered by the conventional Reverse Osmosis process, which are substantial water requirement, clogging of the membrane, and removal of the beneficial minerals. This easy to operate Water ATMs can be built in rural areas to meet the need for clean drinking water. On the occasion of the inauguration of the Water Quality Centre of Excellence, Prof. Bullinger, Chairman, Wilo Foundation congratulated Vishwakarma University for not only making efforts to create awareness about drinking water but also to contribute to society by way of establishing Water ATM.



<https://www.vupune.ac.in/vishwakarma-news/inauguration-of-wilo-foundation-and-vishwakarma-university-water-quality-centre-of-excellence-2-2-2>

<https://www.vupune.ac.in/blog/water-woes-why-india-needs-better-watermanagement>

https://www.vupune.ac.in/images/MediaCoverage/sakal_17_June_2018.pdf

World Water Day, 2019

A journey towards sustainable development with a particular focus on the water was carved out in a first of its kind initiative by Vishwakarma University. On the occasion of World Water Day, Vishwakarma University organized an intercollegiate role-play competition for students under the aegis of the Water Quality Centre of Excellence of VU in association with WILO Mather and Platt India that brought the bright minds together to find sustainable solutions for water conservation in cities.

The Idea With the thought that 'Intelligent Brains leads to Smart Solutions leading to Smart cities,' the focus of the competition was to make youth realize the essential requirements for a sustainable, environment-friendly livelihood with a special focus on water as one of the most critical and imperative elements in sustainability. The best part of the event was that the students came up with solutions rather than mere project presentations!



<https://www.vupune.ac.in/vishwakarma-news/innovative-competition-partum-i-orbis>

https://www.vupune.ac.in/images/MediaCoverage/Loksatta_26_Mar_19.pdf

Educational tour of students from Gujarat to Water Quality Centre of Excellence, on World Environment Day, 6th June 2019

VU and the Water Quality Center of Excellence encourage the awareness and sensitization of the cause of water and sanitation to the students from this region and other states. To this effect, Final Year Engineering students from three renowned institutes of Gujarat, i.e., Sardar Vallabhbhai National

Institute of Technology, Surat, Adani Institute of Infrastructure Engineering Ahmedabad, and Aditya Silver Oak institute of technology, Ahmedabad visited the Water Quality Centre of Excellence at Vishwakarma University on 6th of June 2019 for the education tour. First half they gained knowledge about the Wilo Company followed by a visit to the Centre at Vishwakarma University.

Brainstorming group discussion on various aspects of environmental issues was discussed with special mention to Water Scarcity and its possible solutions. Students shared and explained about their ongoing projects related to wastewater treatment, civil solution for segregation of kitchen waste, municipal solid waste, green building concepts. Students visited the Water Quality Centre and learned about the sophisticated instruments in the state of the art Water Quality Centre of Excellence. Education visited concluded with an activity (hanging of bird feeders on trees on VU campus) arranged on the eve of World's Environment Day, where all the students pledged to take innovative steps for conserving nature.



<https://www.vupune.ac.in/vishwakarma-news/educational-tour-of-students-from-gujarat-to-vu-wilo>

Wilo Promise Project

The Water Quality Centre of Excellence promotes cross-functional and transdisciplinary research and development that transcends beyond mere science and technology. The Centre provided the most appropriate innovation platform for the development of business service models. The students of the Commerce and Management department of Vishwakarma University, interns completed the research and development of real-life project relating to the customer and market survey. In particular, students conducted a scientific survey to identify the unmet need relating to the water pumping system that is used in the community housing, multi-storied buildings, and housing clusters. The detailed analysis and findings of this survey enabled Wilo to institute a business service model for the pumping system maintenance using digitalization techniques.

The project was undertaken as an industry project with Wilo Mather and Platt Pvt. Ltd, Pune, India. It is an innovative project for devising an integrated and systematic mechanism for handling various issues related to water and wastewater handling systems. The process included ideas and solutions to enhance energy efficiency and water quality for the wellbeing of the community. (Patent Pending)

The social initiative, Drinking Water facility at Rural Areas

Playing the role of an intellectual driver of social change, Vishwakarma University, Pune in collaboration with Wilo Mather and Platt Private Pumps Limited, Pune, India, a movement has been initiated to take the technology of potable water dispensation to the grass-root level. A survey has been carried out and a Drinking water facility will be installed in the rural areas around the region.

<https://unnatbharatabhiyan.gov.in/blog/index.php/vishwakarma-university-pune-providing-pure-water-drinking-facility/>

Vertical Sewage Treatment Plant, October 2019

To deliver clean water to society in the areas with limited land availability, Vishwakarma University collaborated with Wilo Mather and Platt Pumps Private Limited, Pune, India to jointly conceptualize and develop a Vertical Sewage Treatment Plant (VSTP) to generate potable water. The capacity of the plant is 10,000 liters of water per day. The project will be completed in three phases. The project started in 2019. The stages included ideation of VSTP Technology, Conceptualization of the VSTP, Designing of Individual Components, System Design, and Configuration, Installation of VSTP in Campus, Patent, Investigation, Testing, Validation, Simulation, and modeling. Five faculty members and students from Science and Technology are engaged in this project. The VSTP is installed at the VU campus. The operational controlled environment testing at the Technology Readiness Level 5 is completed at VU.



Participation in IFAT, India, October 2019

Vishwakarma University, Science and Technology students visited India's Leading Trade Fair for Water, Sewage, Solid Waste and Recycling, IFAT India, 18th October 2019, Bombay Exhibition Centre, Mumbai. The Educational visit was arranged by Water Quality Centre of Excellence, under its Students Chapter, in which 11 students of Mechanical Engineering (First Year, Second Year, and Third Year) took advantage of display of emerging technologies in the area of water management, water quality under one stage in IFAT 2019. More than 150 companies displayed their latest technology and advancements from India, China, Korea, Netherland, Germany, and other countries. The students had good interaction with the people from topmost companies like Kirloskar, Thermax, Atlas Copco, Mitsubishi, Wilo, etc. With an aim that exposure to these latest technologies will enhance their skill sets to make them Industry ready, students took major advantage of this visit.



<https://www.vupune.ac.in/vishwakarma-news/s-t-students-visited-ifat-india-trade-fair>

Participation in DWA University Challenge 2019

Three students (Krishna Rathi, Bakhtawar Bains, and Soham Mahajan) from 3rd-year Mechanical Engineering got selected for DWA University Challenge. Out of 12 teams selected from all over the country, our University stood 4th in this Innovative Inter-University Challenge organized by DWA Germany. Students completed all the three tasks given to them comprising planning of sustainable world, report writing of the fictitious company in IFAT followed by Aqua Republica simulation game.

Workshop On “Global Sanitation Graduate School Programme (GSGS)” November 2019

With the developing countries facing extreme challenges in areas of clean water and lack of proper sanitation facilities, this effort could bring out to the development of a new era of cleanliness and hygienic world. It aims in providing an enabling environment with a vibrant community of professionals who have completed one or more educational or training courses offered by members of the School.

VU has established a collaboration with the Asian Institute of Technology (AIT), Thailand, who is the key partner in this GSGS initiative coordinated. The GSGS is facilitated by IHE Delft and supported by the Bill and Melinda Gates Foundation (BMGF), IWA, Ministry of Foreign affairs of the Netherland, and Organization of American States [<https://sanitationeducation.org/>]. VU is the second tier partner with AIT, Thailand. Prof. Thammarat Koottatep, Professor at the Department of Energy, Environment, and Climate, School of Environment is the project lead from AIT.

On 7th and 8th November 2019, Prof. Thammarat Koottatep, Asian Institute of Technology, Thailand conducted a 2-days workshop on Global Sanitation Graduate School Programmes for the faculty in Vishwakarma University, Pune. Brainstorming sessions were carried out and attended by faculties from different disciplines of Vishwakarma. Various universities from sub-Saharan and south Asia are part of this great initiative. Vishwakarma University has embarked on this mission along with the other universities in the world.

<https://www.vupune.ac.in/vishwakarma-news/workshop-on-global-sanitation-graduate-school-programme>



Participation in GSGS Summit and IWA-WDCE, December 2019

Vishwakarma University has been recognized by IHE Delft, Institute of Water Education, the Netherlands as a 2nd tier partner in Consortium with the Asian Institute of Technology, Thailand for accelerating improvement in health and quality of life by disseminating knowledge on sanitation through postgraduate (MSc) programs, Diploma, and online (self-study and instructor-led) courses under GSGS Initiative led by IHE Delft supported by BMGF.

The International Water Association (IWA) has been organizing Water and Development Congress and Exhibition (WDCE) for almost 20 years. This year Congress was held in Colombo, Sri Lanka, from 1st to 5th Dec 2019, with the focus on sustainable solutions for emerging economics. More than 3000 students, delegates, researchers, and exhibitors participated actively in this congress from around 90 countries.

Global Sanitation Graduate School (GSGS), IHE Delft, Netherland invited Vishwakarma University to the GSGS Summit 2019 and IWA, WDCE 2019 in Colombo, Sri Lanka. Three Delegates from Vishwakarma University participated in the GSGS summit and IWA WDCE. The program was supported by the Bill and Melinda Gates Foundation (BMGF), IWA, Ministry of Foreign affairs of Netherland, and Organization of American States. 97 delegates were invited from around 53 universities from 27 countries across the world by IHE Delft Netherlands in association with IWA and Bill and Melinda Gates Foundation.



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